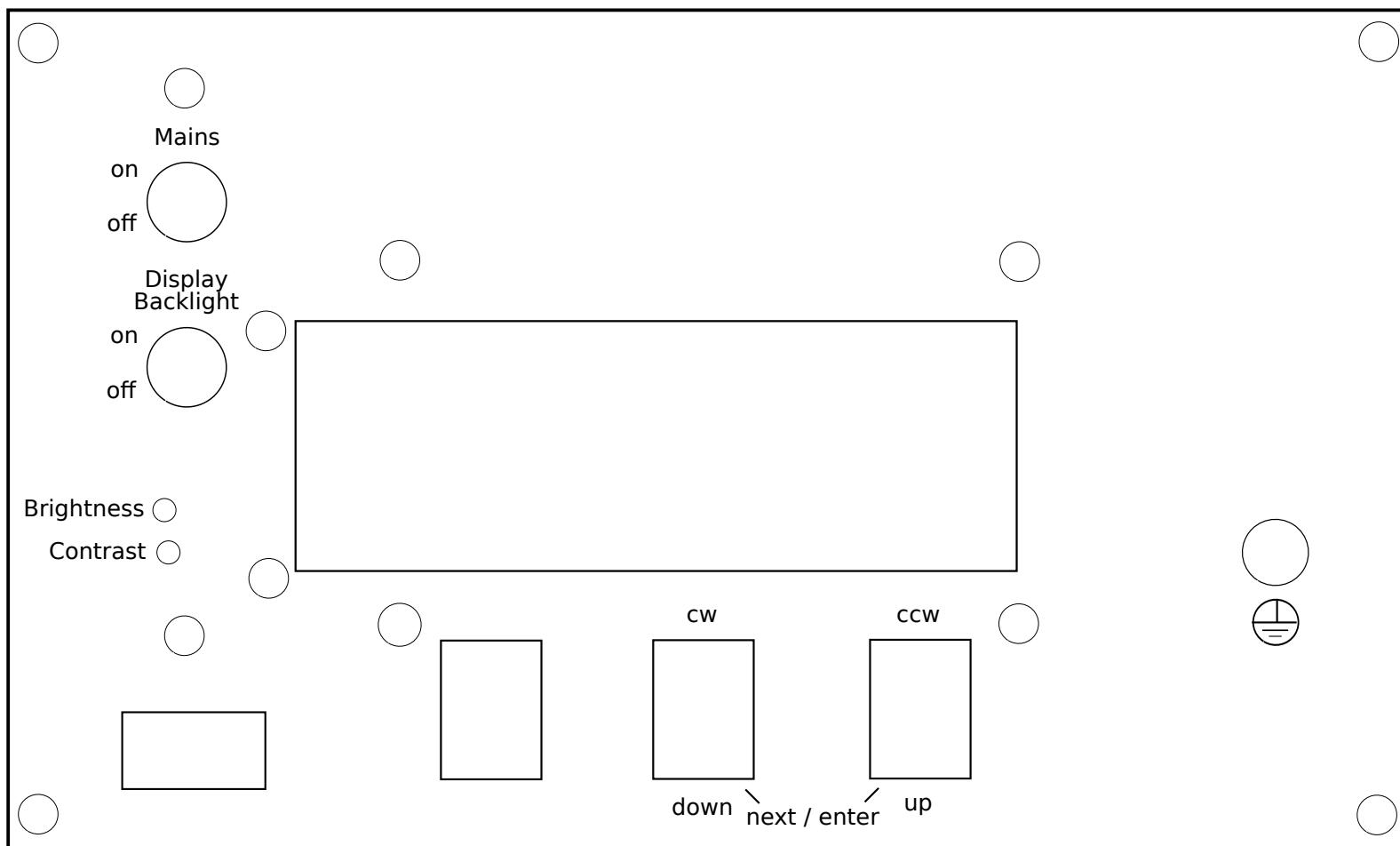
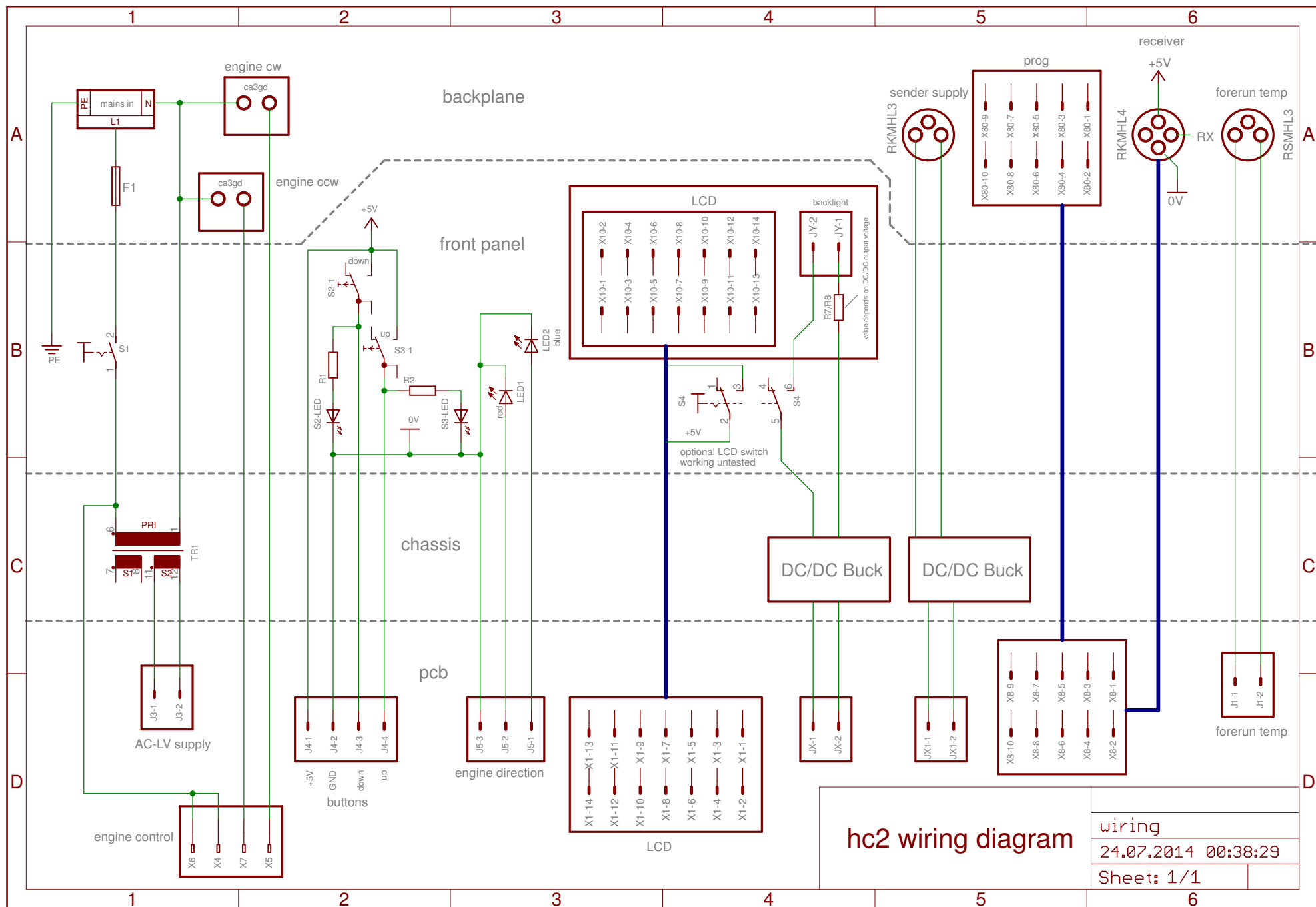
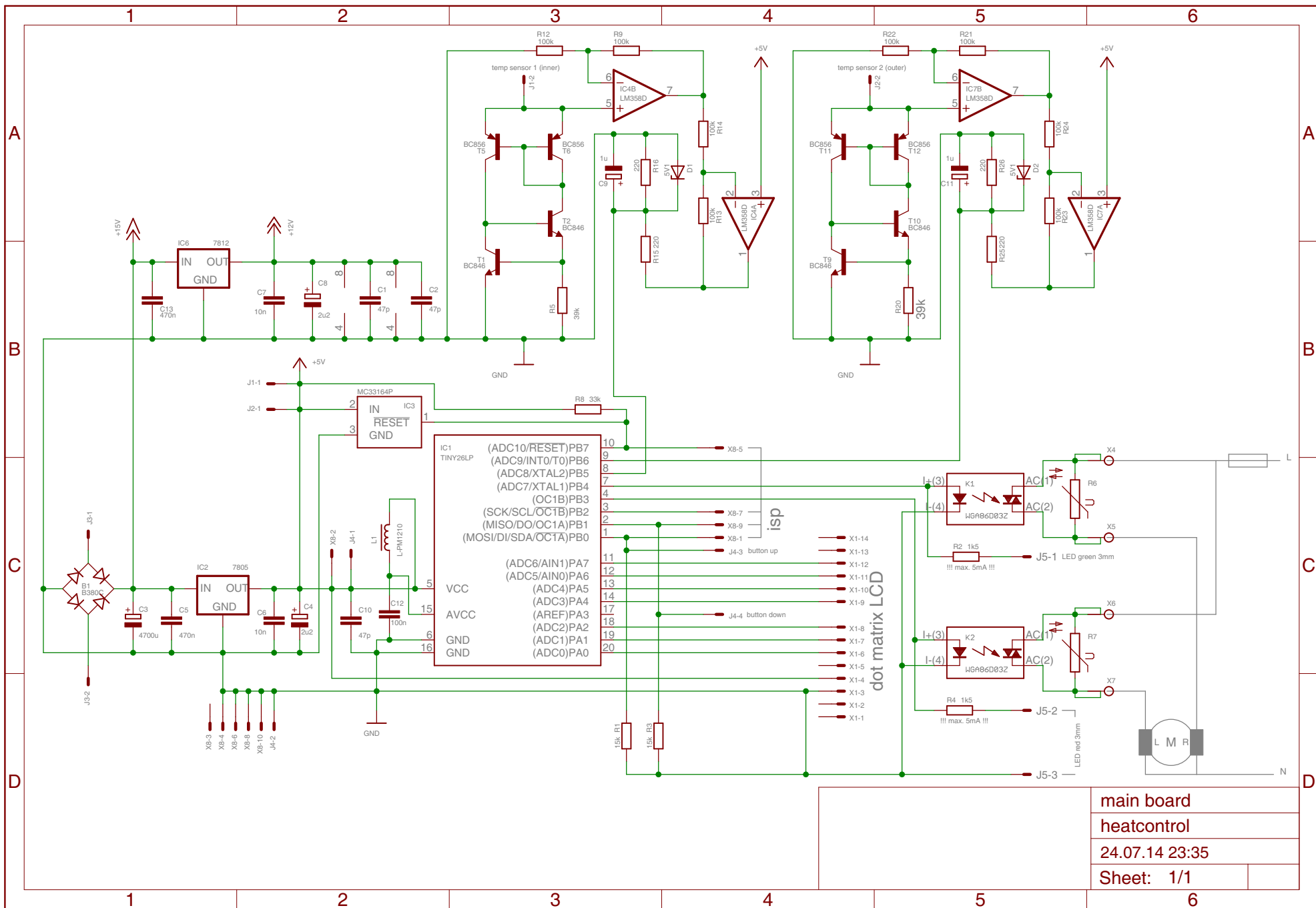
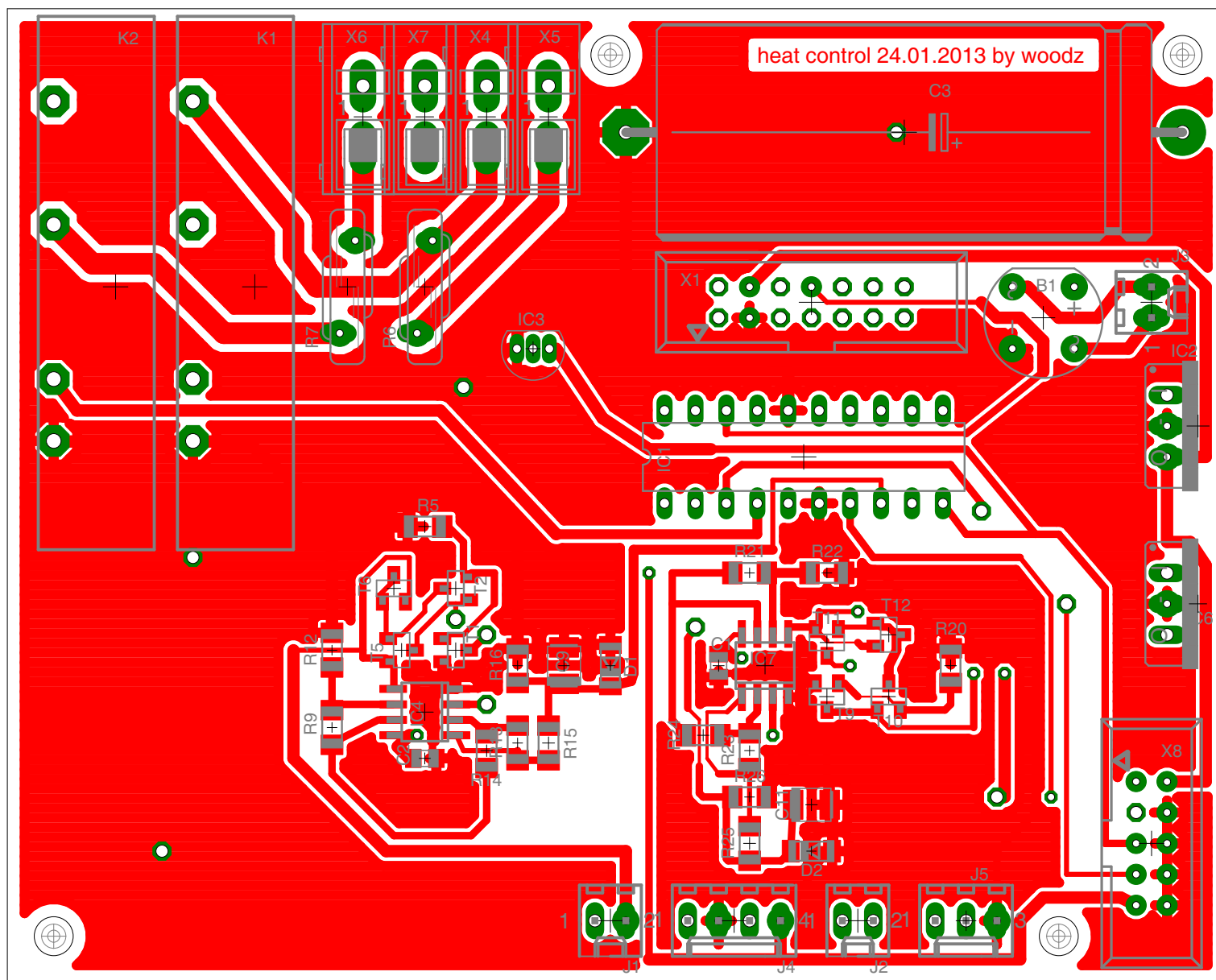


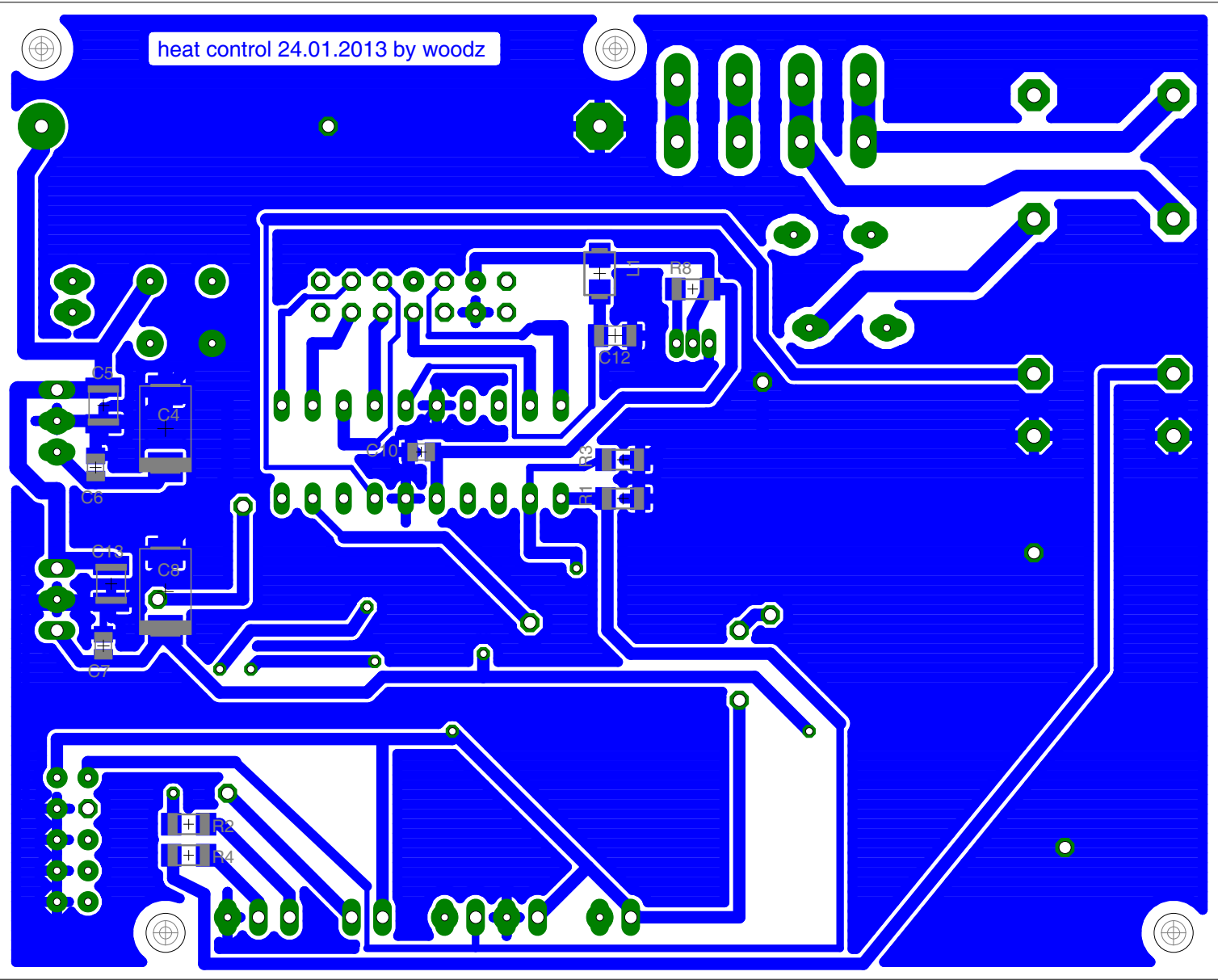






main board
heatcontrol
24.07.14 23:35
Sheet: 1/1





Partlist

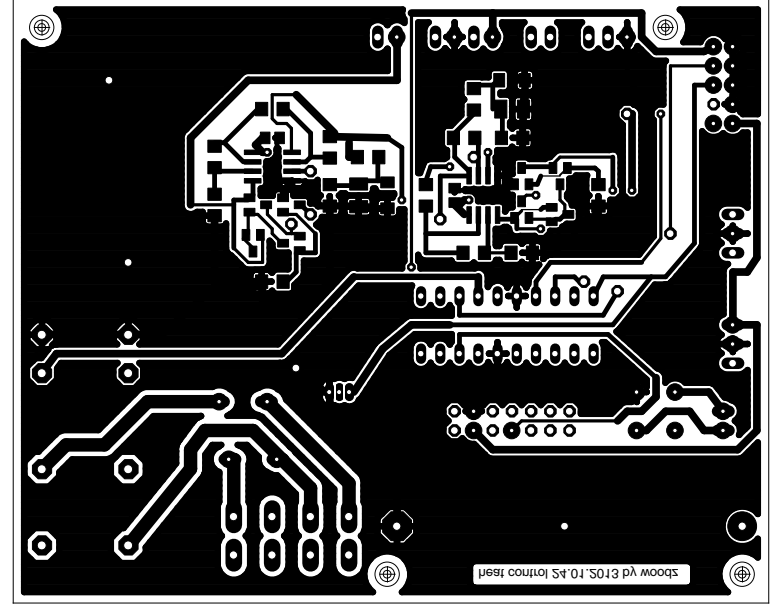
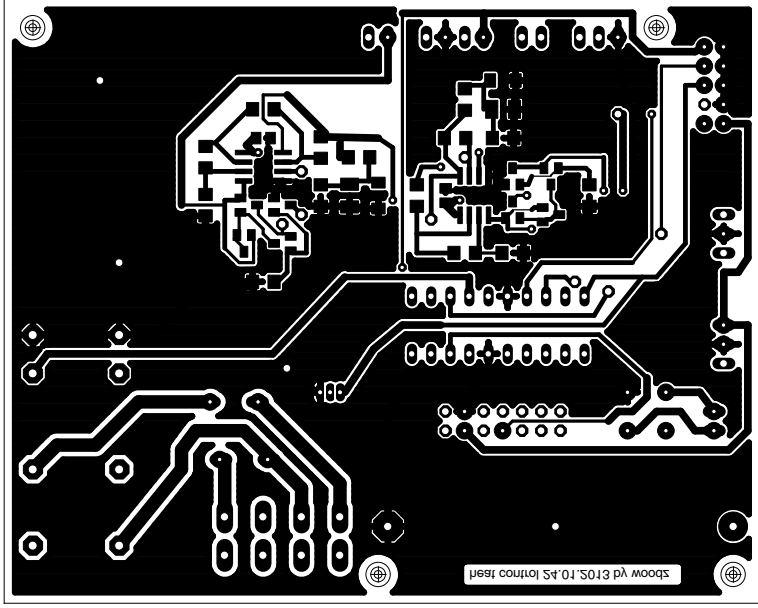
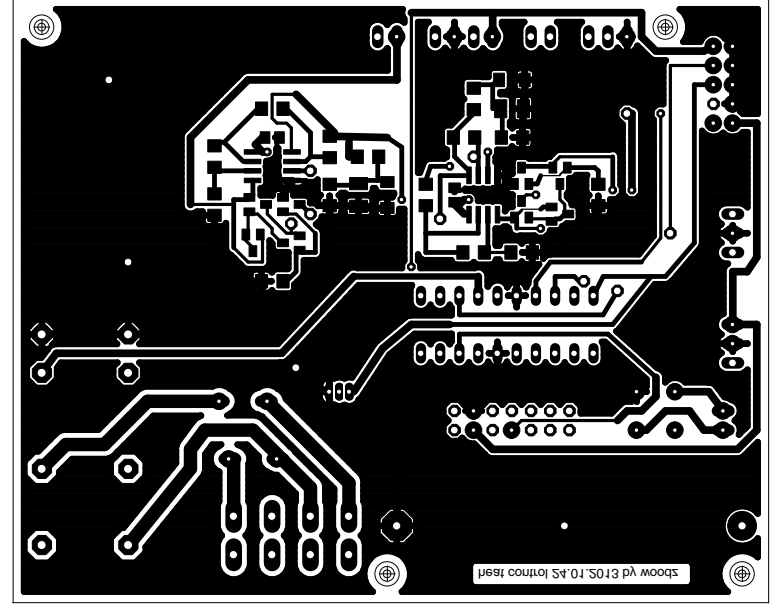
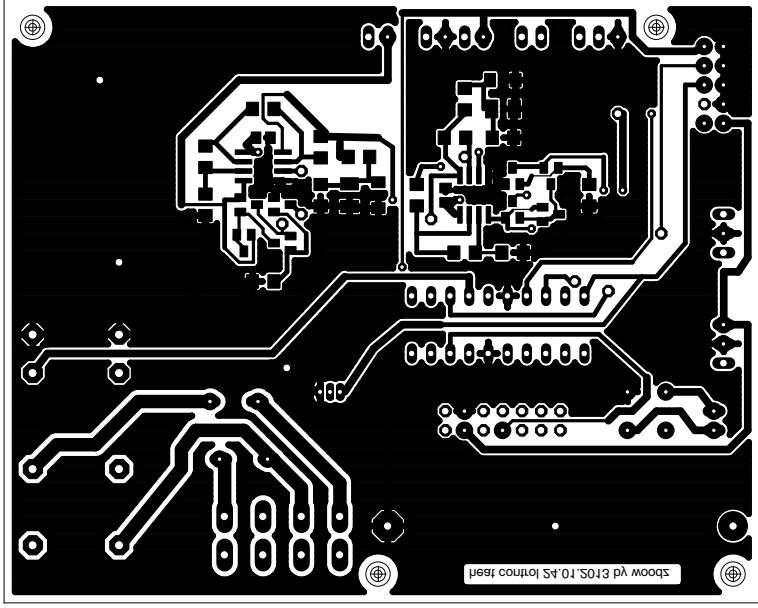
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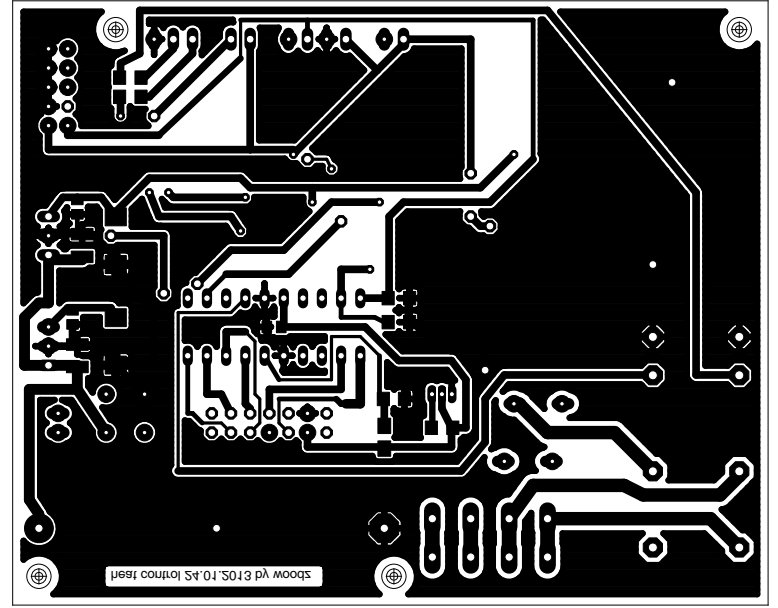
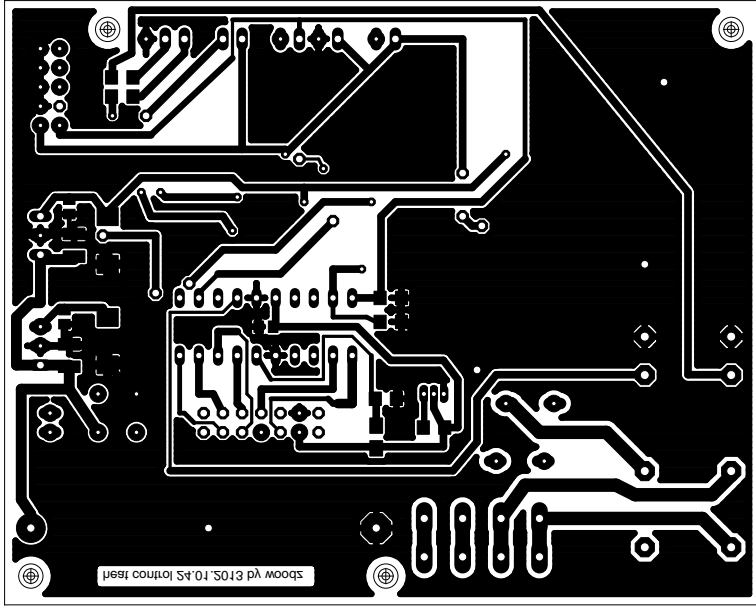
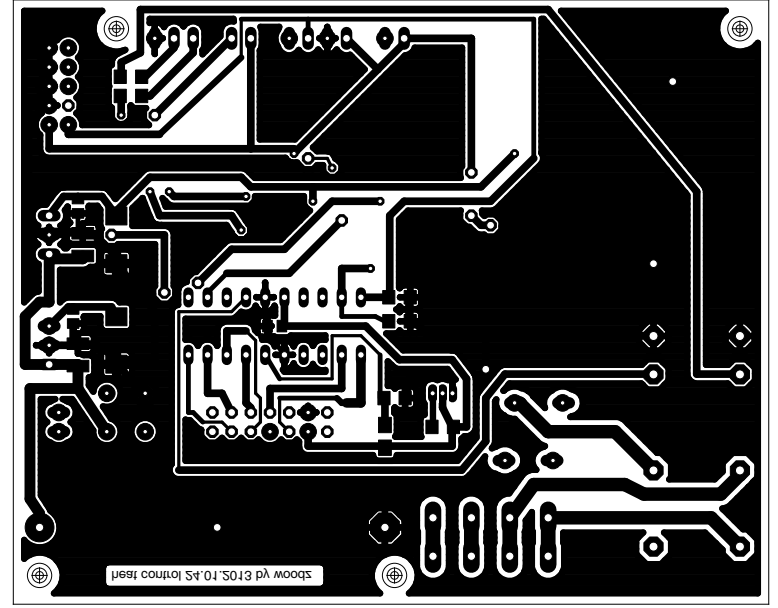
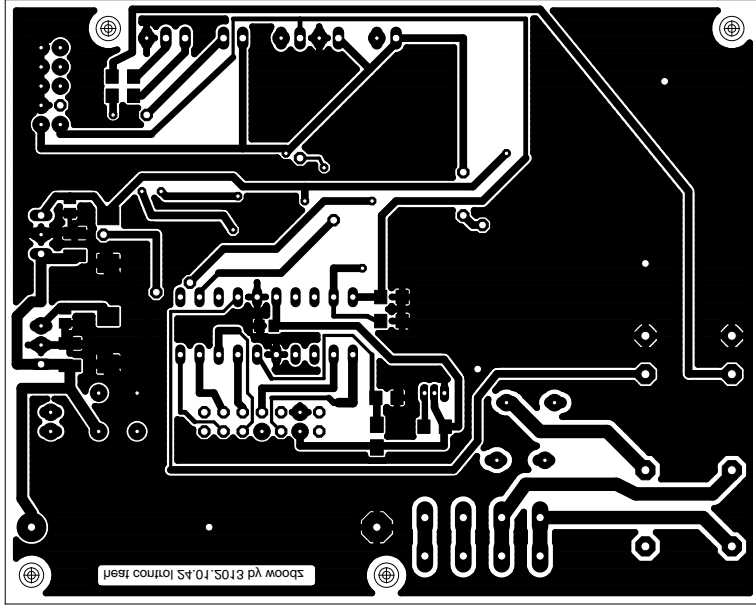
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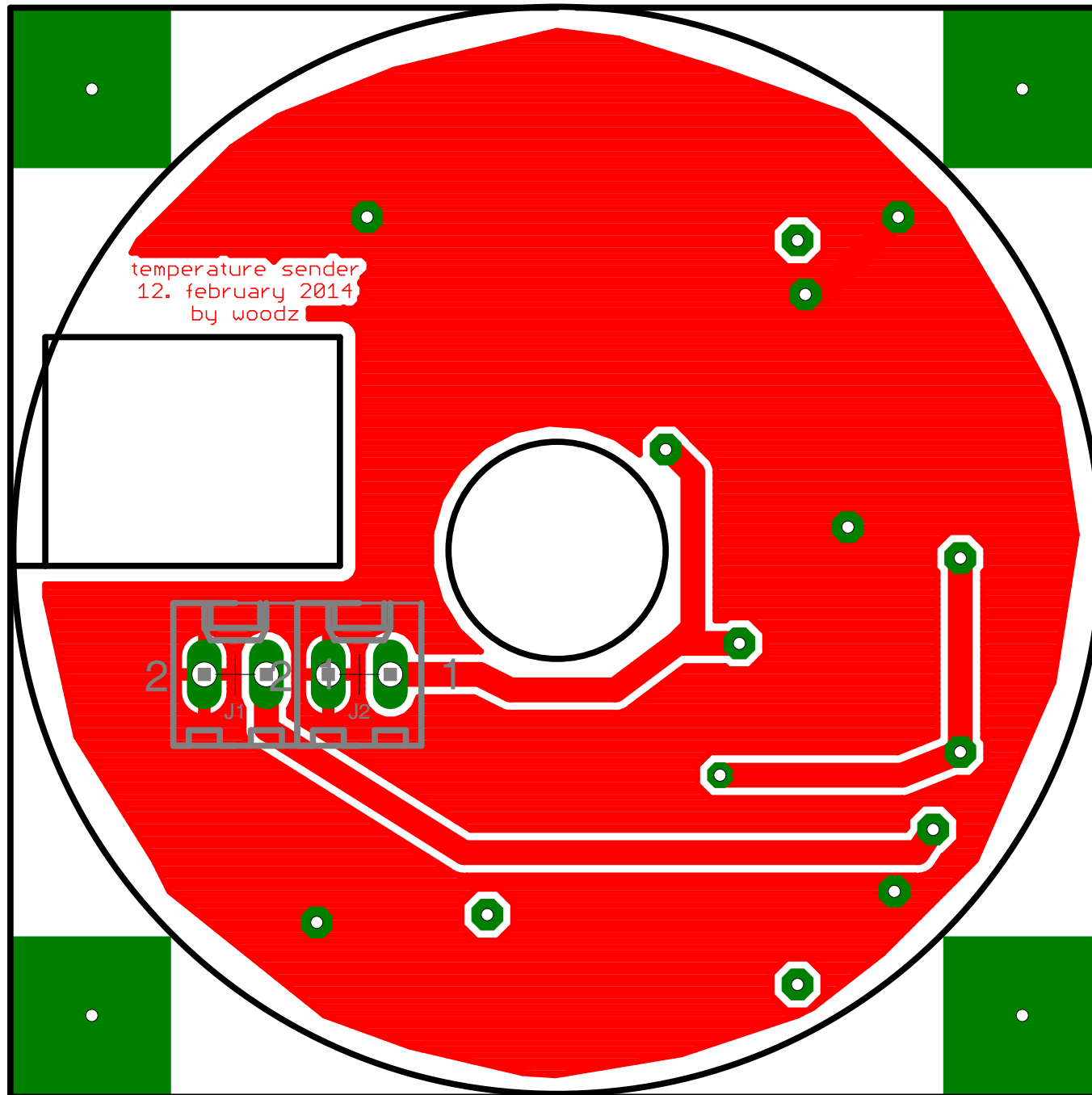
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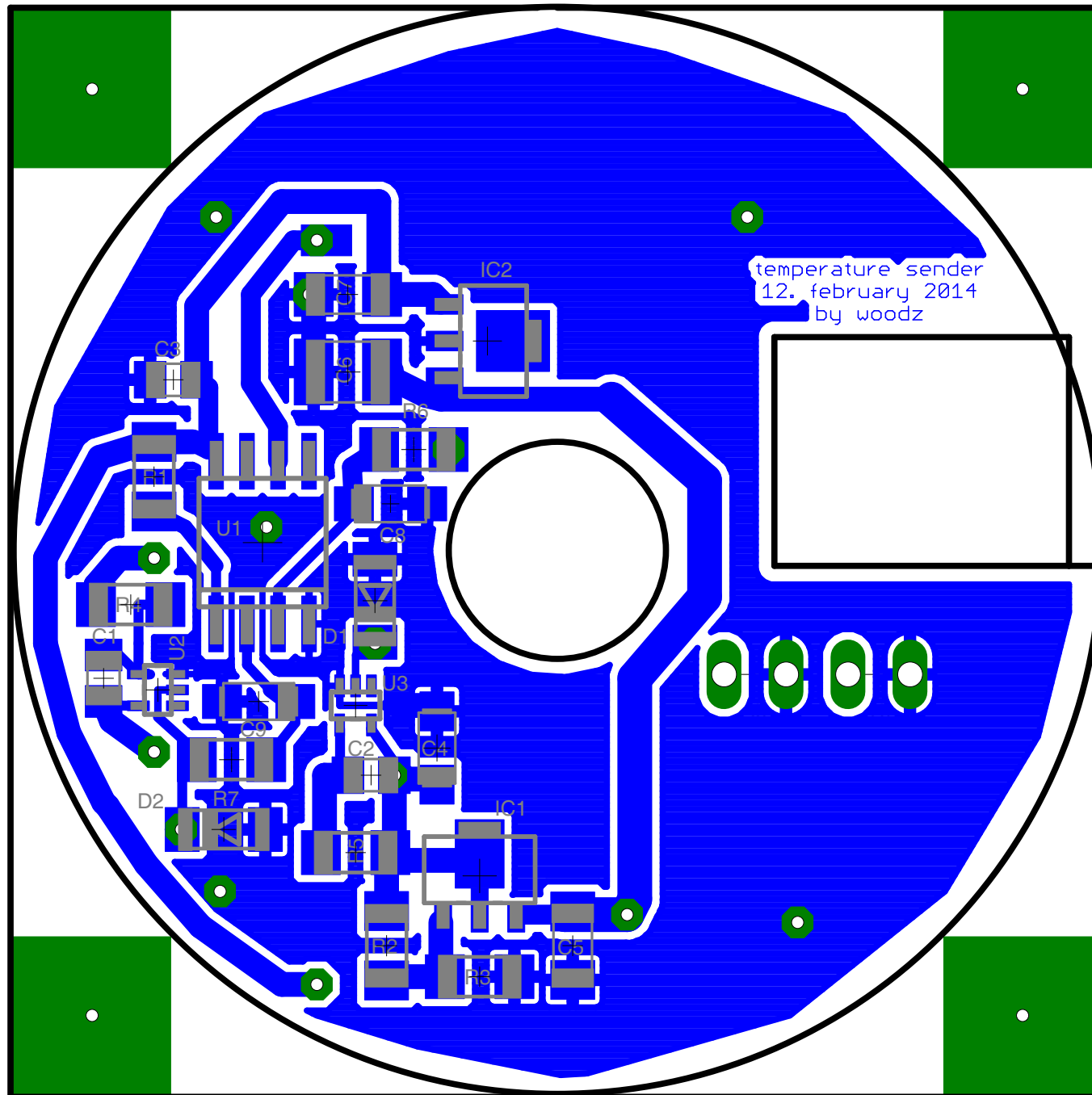
Part	Value	Device	Package	Library	Sheet
B1	B380C	RB1A	RB1A	rectifier	1
C1	47p	C-EUC0805	C0805	rcl	1
C2	47p	C-EUC0805	C0805	rcl	1
C3	4700u	CPOL-EUE45-18AXIAL	E45-18	rcl	1
C4	2u2	CPOL-EUSMCD	SMC_D	rcl	1
C5	470n	C-EUC1210K	C1210K	rcl	1
C6	10n	C-EUC0805	C0805	rcl	1
C7	10n	C-EUC0805	C0805	rcl	1
C8	2u2	CPOL-EUSMCD	SMC_D	rcl	1
C9	1u	CPOL-EUSMCB	SMC_B	rcl	1
C10	47p	C-EUC0805	C0805	rcl	1
C11	1u	CPOL-EUSMCB	SMC_B	rcl	1
C12	100n	C-EUC1206	C1206	rcl	1
C13	470n	C-EUC1210K	C1210K	rcl	1
D1	5V1	ZENER-DIODESOD80C	SOD80C	diode	1
D2	5V1	ZENER-DIODESOD80C	SOD80C	diode	1
IC1	TINY26LP	TINY26LP	DIL20	atmel	1
IC2	7805	78XXS	78XXS	v-reg	1
IC3	MC33164P	MC33164P	T0-226AA	linear	1
IC4	LM358D	LM358D	S008	linear	1
IC6	7812	78XXS	78XXS	v-reg	1
IC7	LM358D	LM358D	S008	linear	1
J1	22-27-2021-02	22-27-2021-02	6410-02	con-molex	1
J2	22-27-2021-02	22-27-2021-02	6410-02	con-molex	1
J3	22-27-2021-02	22-27-2021-02	6410-02	con-molex	1
J4	22-27-2041-04	22-27-2041-04	6410-04	con-molex	1
J5	22-27-2031-03	22-27-2031-03	6410-03	con-molex	1
K1	WGA86D03Z	WGA86D03Z	WGA8	WSwitch	1
K2	WGA86D03Z	WGA86D03Z	WGA8	WSwitch	1
L1	L-PM1210	L-PM1210	PM1210	inductors-jwmiller	1
R1	15k	R-EU_R1206	R1206	rcl	1
R2	1k5	R-EU_R1206	R1206	rcl	1
R3	15k	R-EU_R1206	R1206	rcl	1
R4	1k5	R-EU_R1206	R1206	rcl	1
R5	39k	R-EU_R1206	R1206	rcl	1
R6	S10K11	S10K11	S10K11	varistor	1
R7	S10K11	S10K11	S10K11	varistor	1
R8	33k	R-EU_R1206	R1206	rcl	1
R9	100k	R-EU_R1206	R1206	rcl	1
R12	100k	R-EU_R1206	R1206	rcl	1
R13	100k	R-EU_R1206	R1206	rcl	1
R14	100k	R-EU_R1206	R1206	rcl	1
R15	220	R-EU_R1206	R1206	rcl	1
R16	220	R-EU_R1206	R1206	rcl	1
R20	39k	R-EU_R1206	R1206	rcl	1
R21	100k	R-EU_R1206	R1206	rcl	1
R22	100k	R-EU_R1206	R1206	rcl	1
R23	100k	R-EU_R1206	R1206	rcl	1
R24	100k	R-EU_R1206	R1206	rcl	1
R25	220	R-EU_R1206	R1206	rcl	1
R26	220	R-EU_R1206	R1206	rcl	1
T1	BC846	BC846	SOT23	transistor	1
T2	BC846	BC846	SOT23	transistor	1
T5	BC856	BC856A-PNP-SOT23-BEC	SOT23-BEC	transistor	1
T6	BC856	BC856A-PNP-SOT23-BEC	SOT23-BEC	transistor	1
T9	BC846	BC846	SOT23	transistor	1
T10	BC846	BC846	SOT23	transistor	1
T11	BC856	BC856A-PNP-SOT23-BEC	SOT23-BEC	transistor	1
T12	BC856	BC856A-PNP-SOT23-BEC	SOT23-BEC	transistor	1
X1	057-014-1	057-014-1	057-014-1	con-panduit	1
X4	W236-1	W236-1	W236-1	con-wago-508	1
X5	W236-1	W236-1	W236-1	con-wago-508	1

X6	W236-1	W236-1	W236-1	con-wago-508	1
X7	W236-1	W236-1	W236-1	con-wago-508	1
X8	057-010-1	057-010-1	057-010-1	con-panduit	1









Partlist

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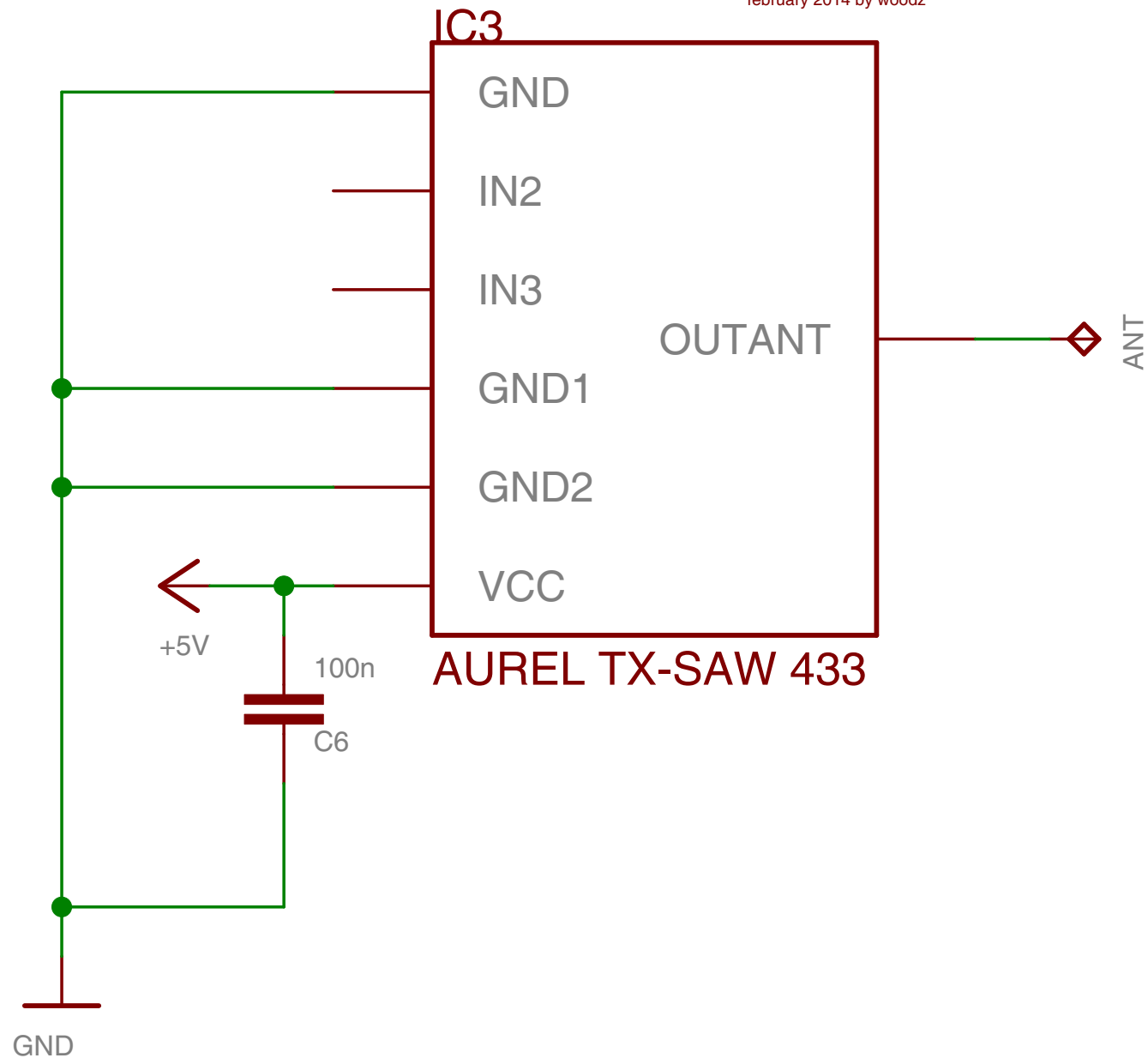
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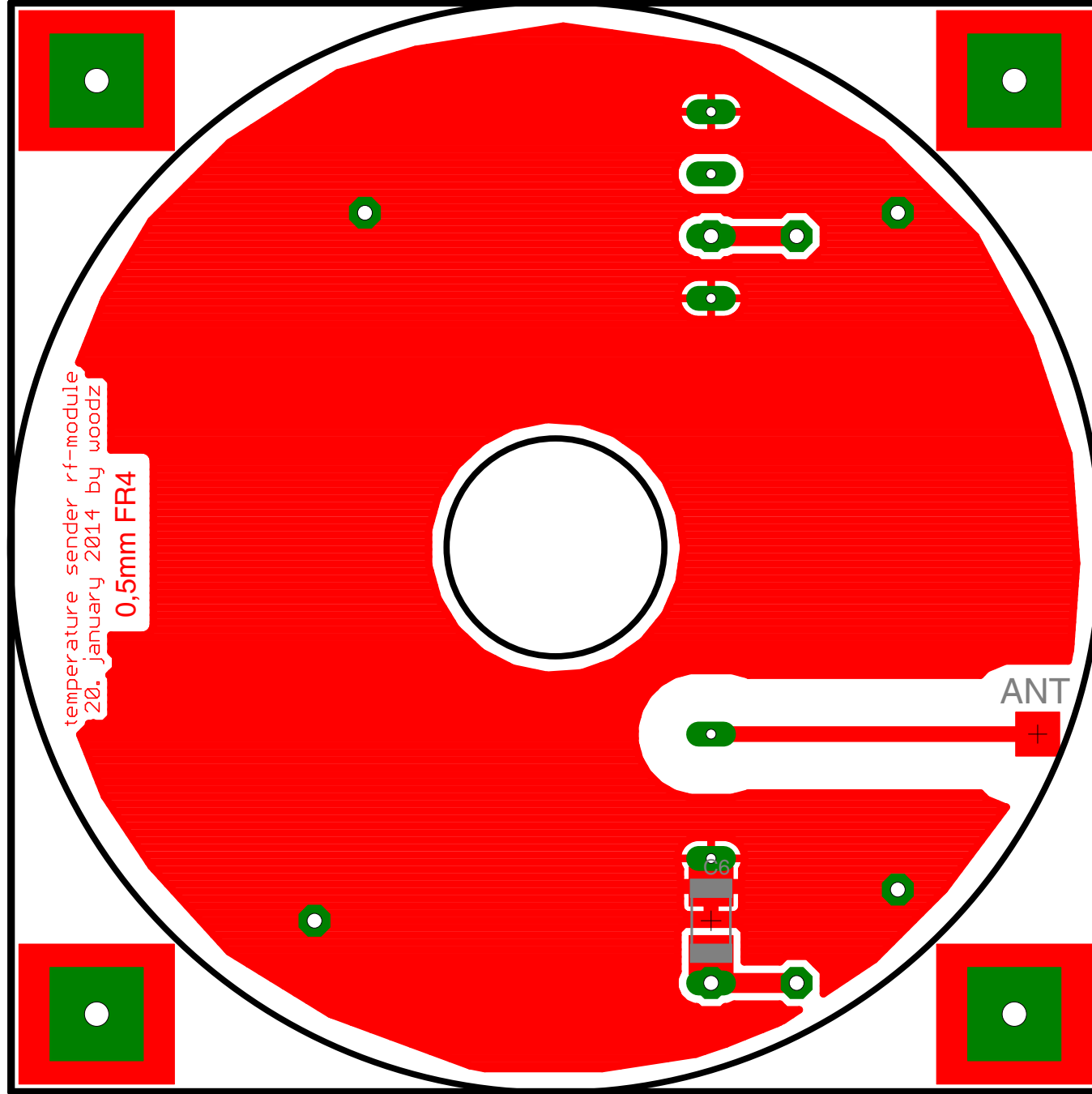
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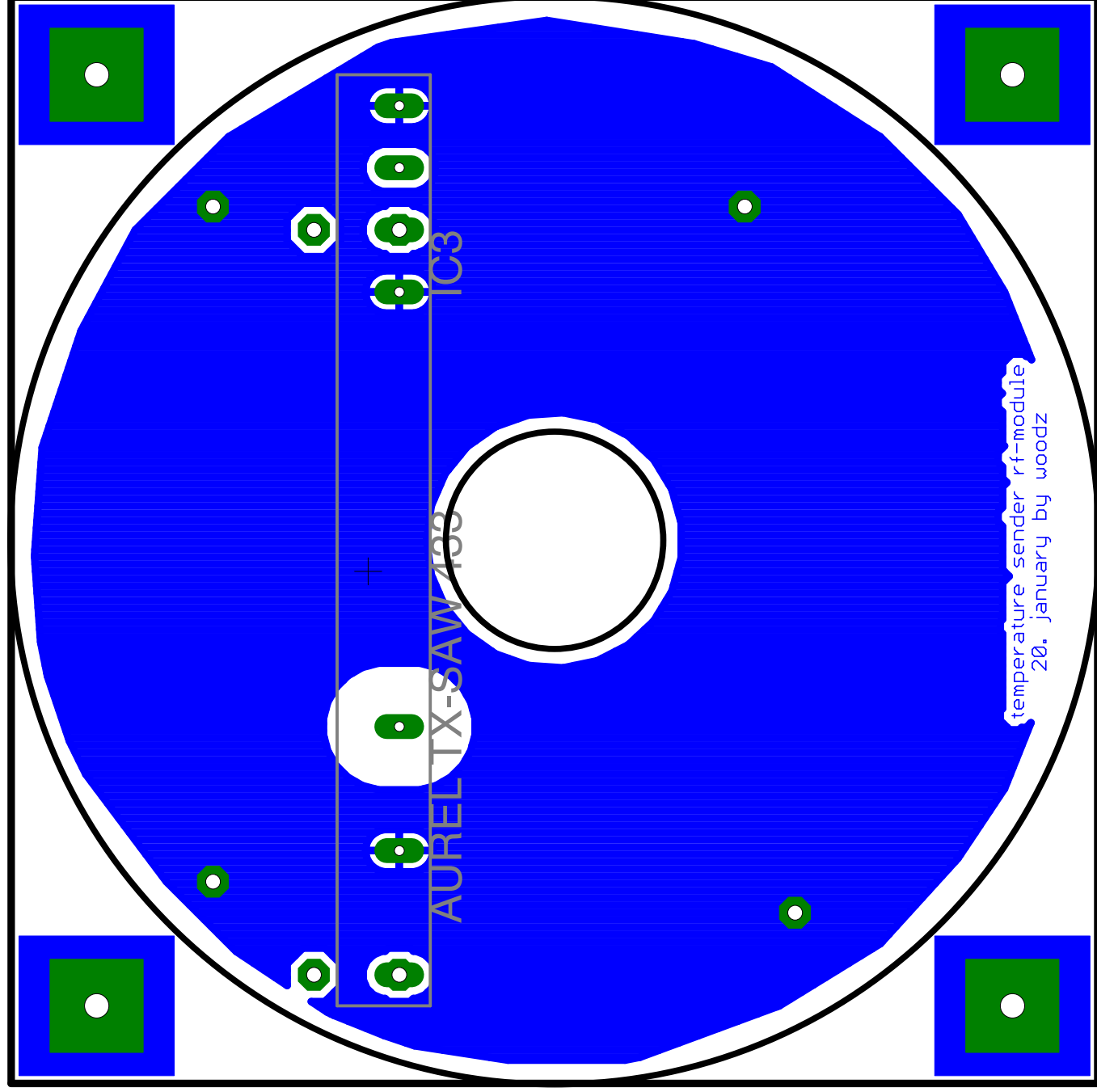
Part	Value	Package	Library	Position (mil)	Orientation
C1	47p	C0805	rcl	(1556.25 743.75)	MR90
C2	47p	C0805	rcl	(1125 587.5)	MR180
C3	47p	C0805	rcl	(1443.75 1225)	MR180
C4	1u	SMC_A	rcl	(1018.75 631.25)	MR90
C5	100n	C1206	rcl	(800 312.5)	MR270
C6	470n	C1210	rcl	(1162.5 1237.5)	MR180
C7	100	C1206	rcl	(1162.5 1362.5)	MR180
C8	1u	SMC_A	rcl	(1093.75 1025)	MR0
C9	1u	SMC_A	rcl	(1306.25 706.25)	MR180
D1	5v1	SOD80C	diode	(1118.75 868.75)	MR90
D2	5v1	SOD80C	diode	(1362.5 500)	MR0
IC1	LM317L	SOT89R	v-reg-3	(950 425)	MR0
IC2	7805	SOT89	v-reg-3	(937.5 1287.5)	MR270
J1	22-27-2021-02	6410-02	con-molex	(306.25 750)	R0
J2	22-27-2021-02	6410-02	con-molex	(506.25 750)	R0
R1	47k	R1206	rcl	(1475 1068.75)	MR270
R2	470	R1206	rcl	(1100 312.5)	MR90
R3	1k8	R1206	rcl	(950 262.5)	MR180
R4	470k	R1206	rcl	(1512.5 862.5)	MR180
R5	470k	R1206	rcl	(1150 462.5)	MR0
R6	1k	R1206	rcl	(1056.25 1112.5)	MR0
R7	1k	R1206	rcl	(1350 612.5)	MR180
U1	ATTINY85-S	S0IC8_EIAJ_208MIL	_hnn_attiny25_45_85	(1300 962.5)	MR0
U2	PSSI2021SAY	SOT353	PSSI2021SAY	(1468.75 725)	MR90
U3	PSSI2021SAY	SOT353	PSSI2021SAY	(1150 700)	MR180

temperature sender - rf board

february 2014 by woodz







Partlist

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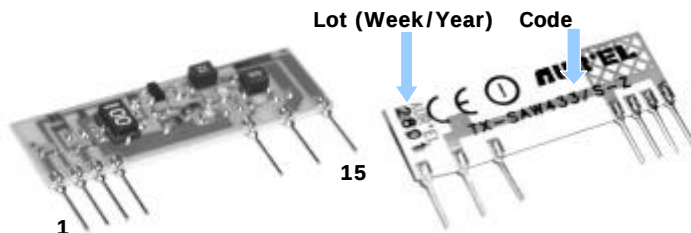
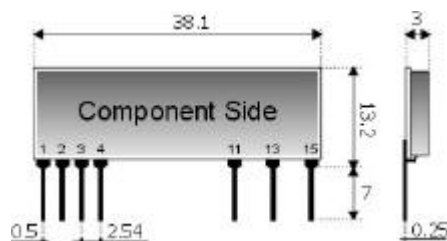
Assembly variant:

Part	Value	Package	Library	Position (mm)	Orientation
ANT	TPTP18SQ	TP18SQ	testpad	(40.64 16.51)	R0
C6	100n	C1206	rcl	(27.305 8.89)	R270
IC3		AUREL_TX-SAW_433	aurel	(28.575 22.86)	MR270

TX-SAW / 433 s-Z Transmitter

SAW Transmitter module with external antenna, for utilisations with ON-OFF modulation of a RF carrier with digital data.

Pin-out



Connections

Pin 1-4-13	Ground	GND Connections. To be externally connected to a single ground plate. (see fig. 3)
Pin 2	Input Mod.	TTL 0÷5V type data input with a minimum 5K Ω resistance. Connection utilized only if the supply to pin 15 is +12V $\pm$ 10% (see fig. 2)
Pin 3	Input Mod.	TTL 0÷5V type data input with a minimum 5K Ω resistance. Connection utilized only if the supply to pin 15 is +5V $\pm$ 10% (see fig. 2)
Pin 11	RF output	RF output with a characteristic impedance of 50 Ω
Pin 15	+V	Connection to the positive pole of the +5V $\pm$ 10% supply

Max voltage values allowed

Description	Max	Unity	Remarks
Voltage supply (Vs) to pin 15	13,5	V	

Technical features [ETS 300 200]

Description	Min	Typical	Max	Unity	Remarks
Working frequency centre	433.82	433.92	434.02	MHz	See notes 1 and 2
Voltage supply (Vs)	4.5	5	5.5	V	
Absorbed current		4		mA	
RF output power (E.R.P.)			+10	dBm	See note 1
Output impedance pin 11		50		Ω	
RF spurious emissions		-50		dBm	See note 1
Modulation frequency			4	kHz	
Input high logic level	4.5	5	5.5	V	
Input low logic level	0		0.2	V	
Working temperature	-20		+80	$^{\circ}$ C	See fig. 5
Working temperature [ETS 300 200]	-20		+55	$^{\circ}$ C	See fig. 5
Dimensions	38.1 x 13.2 x 3 mm				See Pin-out

Note1: Values have been obtained by applying the test system shown in Fig. 1 and maximum 5,5 V power supply.

Note2: The minimum and maximum showed values are determined by the device's construction tolerance.

To define the working frequency of the device, add to these values the deviation caused by the thermal variations (see fig. 3).

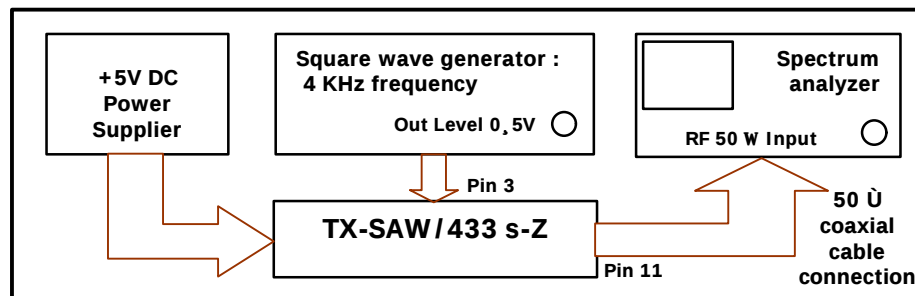
Note3: To keep the parameters within the limits established by the rules in force, (see para. "Reference Rules"), it is recommended to supply the circuit with not more than 5,5V and to comply with all the recommendations specified in para "Device usage".

Messrs AUR°EL declines all responsibilities in case the a.m. recommendations are disregarded.

Technical features are subject to change without notice. AUR°EL S.p.A does not feel responsible for any damage caused by the device's misuse.

The declared technical features have been obtained by applying the following testing system:

Fig. 1



Device usage

In order to obtain the performances described in the technical specifications and to comply with the operating conditions, which characterize the Certification, the transmitter has to be mounted on a printed circuit, and keep into consideration what follows:

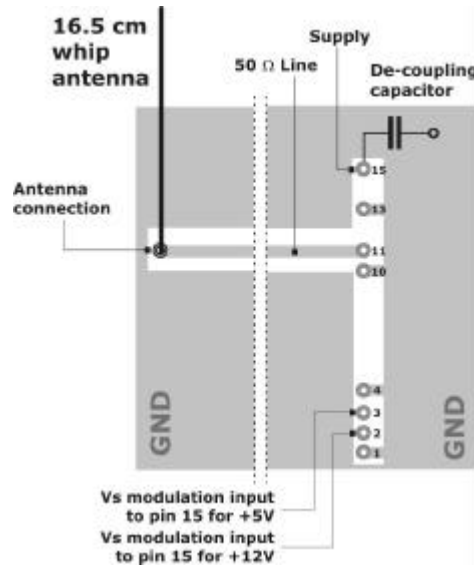
5V dc supply

1. The transmitter must be supplied by a very low voltage source, safely protected against short circuits.
2. Maximum voltage variations allowed: $\pm 0,5$ V.
3. De-coupling, next to the transmitter, by means of a minimum 100.000 pF ceramic capacitor.

Ground

1. It must surround at the best the welding area of the transmitter. The circuit must be double layer, with throughout vias to the ground planes, approximately each 15 mm.
2. It must be properly dimensioned, especially in the antenna connection area, in case a radiating whip antenna is fitted in it (an area of approximately 50 mm radius is suggested).

Technical features are subject to change without notice. AUR°EL S.p.A does not feel responsible for any damage caused by the device's misuse.

Fig. 2


50 Ohm line

1. It must be the shortest as possible.
2. 1,8 mm wide for 1 mm thick FR4 printed circuits and 2,9 mm wide for 1,6 mm thick FR4 printed circuits. It must be kept 2 mm away from the ground circuit on the same side.
3. On the opposite side a ground circuit area must be present.

Antenna connection

1. It may be utilized as the direct connection point for the radiating whip antenna.
2. It can bear the connection of the central wire of a 50 Ω coaxial cable. Be sure that the braid is welded to the ground in a close point.

Antenna

1. A **whip** antenna, 16,5 mm long and approximately 1 mm dia, brass or copper wire made, must be connected to the RF output of the transmitter (pin 11), (see fig. 2).
2. The antenna body must be keep straight as much as possible and it must be free from other circuits or metal parts (5 cm minimum suggested distance.)
3. It can be utilized either vertically or horizontally, provided that a good ground plane surrounds the connection point between antenna and transmitter output.

N.B: As an alternative to the a.m. antenna it is possible to fit the whip model manufactured by **AUR°EL** (see related Data Sheet and Application Notes).
 By fitting whips too different from the described ones, the EEC Certification is not assured.

Other components

1. Keep the transmitter separate from all other components of the circuit (more than 5 mm).

Technical features are subject to change without notice. AUR°EL S.p.A does not feel responsible for any damage caused by the device's misuse.

2. Keep particularly far away and shielded all microprocessors and their clock circuits.
3. Do not fit components around the 50 Ohm line. Keep them at least at 5 mm distance.
4. If the Antenna Connection is directly used for a radiating whip connection, keep at least 5 cm radius free area. In case a 50 Ω impedance coaxial cable is connected, then 5 mm radius will suffice.

Reference Rules

The **TX-SAW/433 s-Z** transmitter complies with the EU Rules **ETS 300-220**, with a 5,5V max. supply. The equipment has been tested according to rule **EN 60950** and it can be utilized inside a special insulated housing that assures its compliance with the above mentioned rule. The transmitter must be supplied by a very low voltage source, safely protected against short circuits.

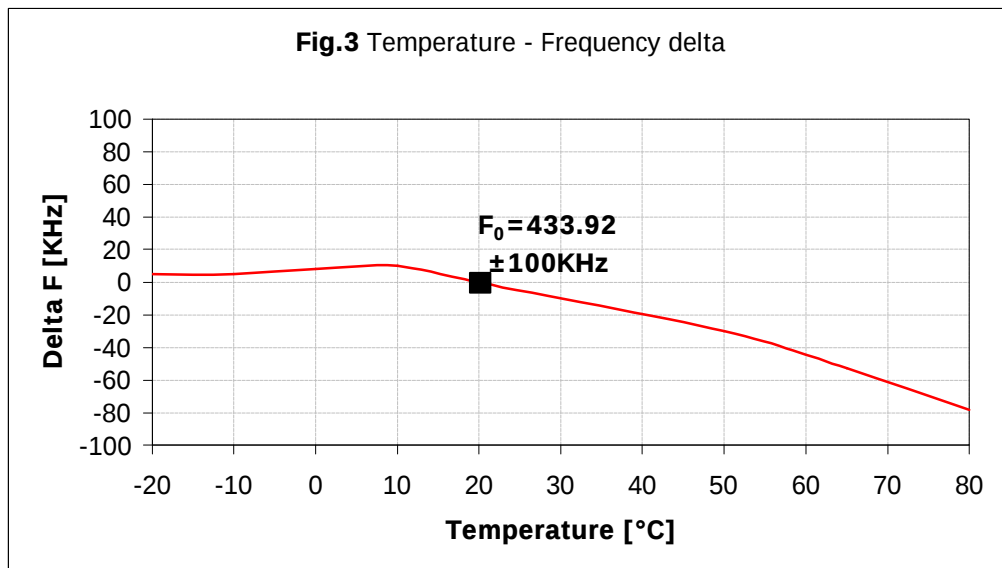
The use of the transmitter module is foreseen inside housings that assure the overcoming of the rules **EN 61000** not directly applicable to the module itself. In particular, it is left at the User's care, the insulation of the external antenna connection, and of the antenna itself, since the RF output of the transmitter is not built to directly bear the electrostatic charges foreseen by the **EN 61000-4-2** rules.

CEPT 70-03 Recommendation

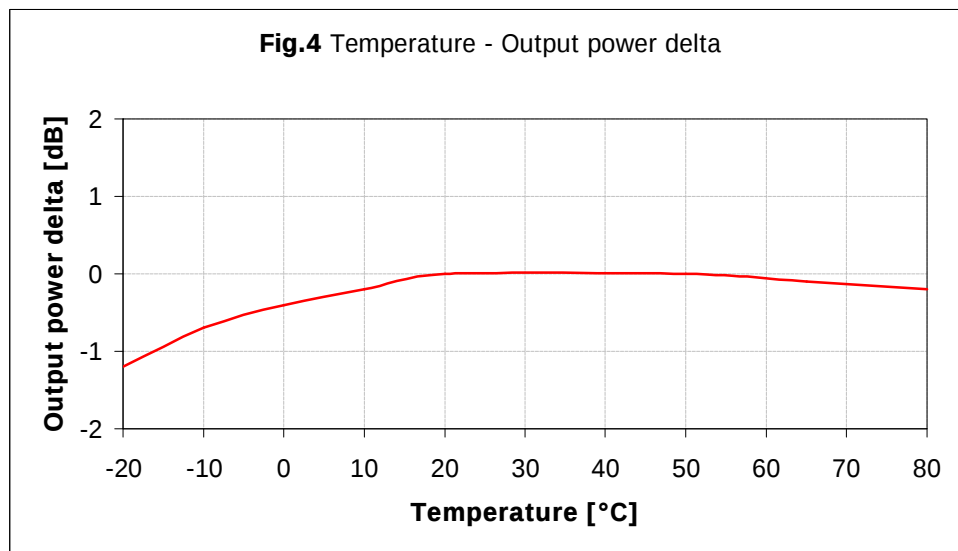
In order to comply with such rule, the device must be used only for a 10% of an hourly duty-cycle, (that means 6 minutes of utilisation over 60). The device utilisation inside the Italian territory is governed by the *Codice Postale* and *Telecomunicazioni* rules in force (art. no. 334 and subsequents).

BTX-SAW/433 s-Z module was previously BZT approved by mean of Test Report obtained c/o the laboratory: **SENTON GmbH** - Äussere Frühlingstrasse 45 D – 94315 STRAUBIN

Reference curves



The curve has been obtained by the testing system shown in Fig.1.
5V Power supply

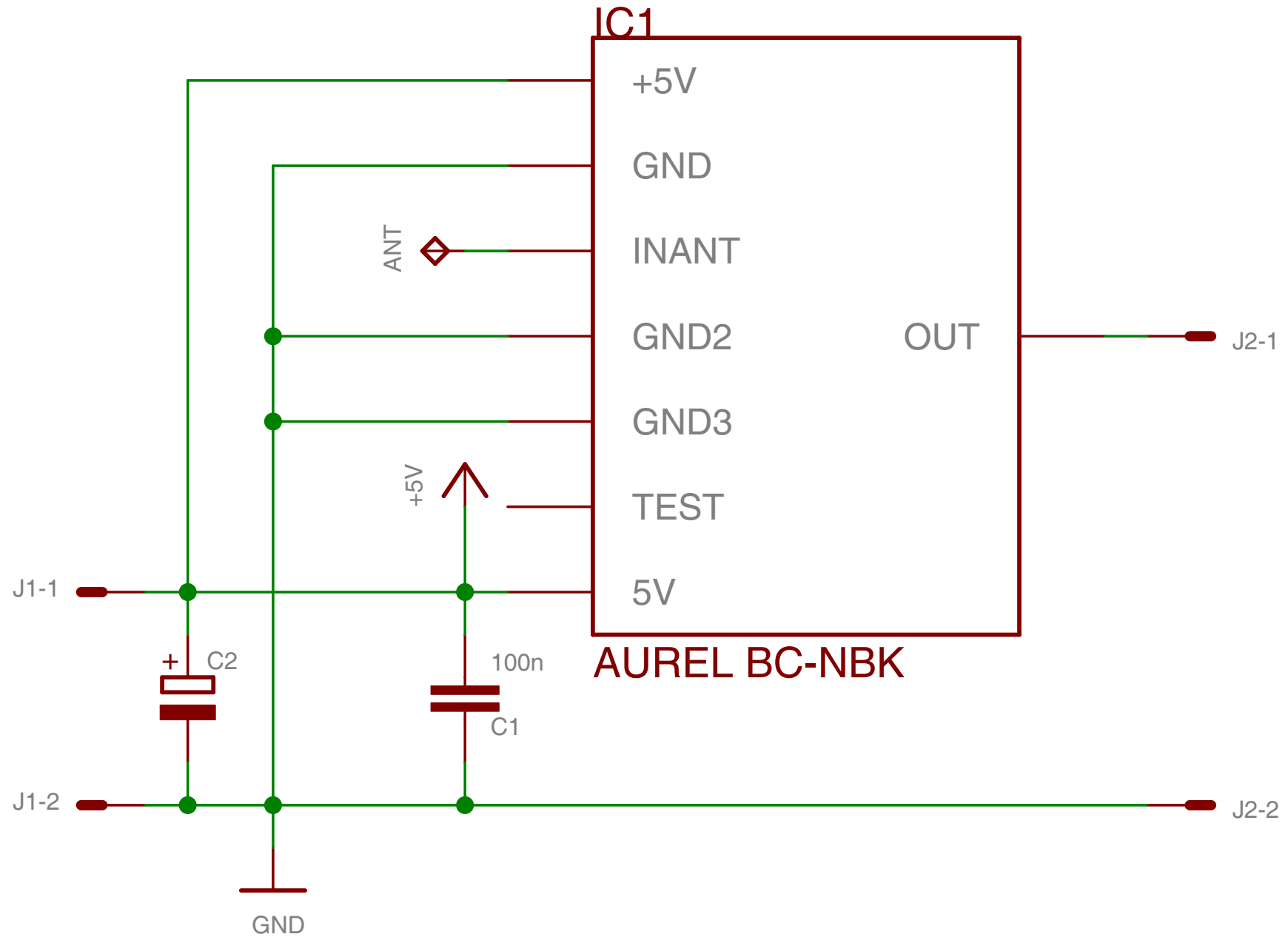


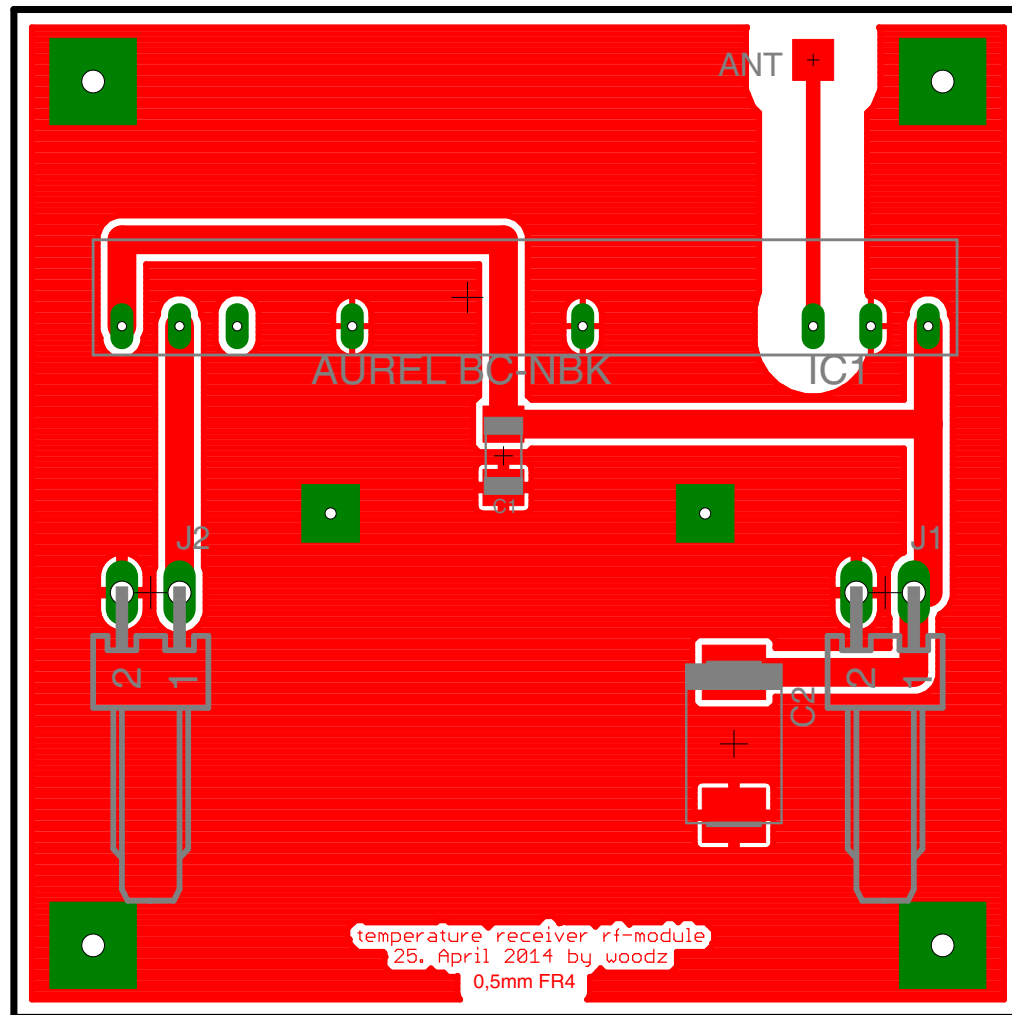
The curve has been obtained by the testing system shown in Fig.1
5V supply, RF output 433,92MHz, $\pm 100 \text{ kHz}$, output power 8dBm $\pm 2\text{dB}$

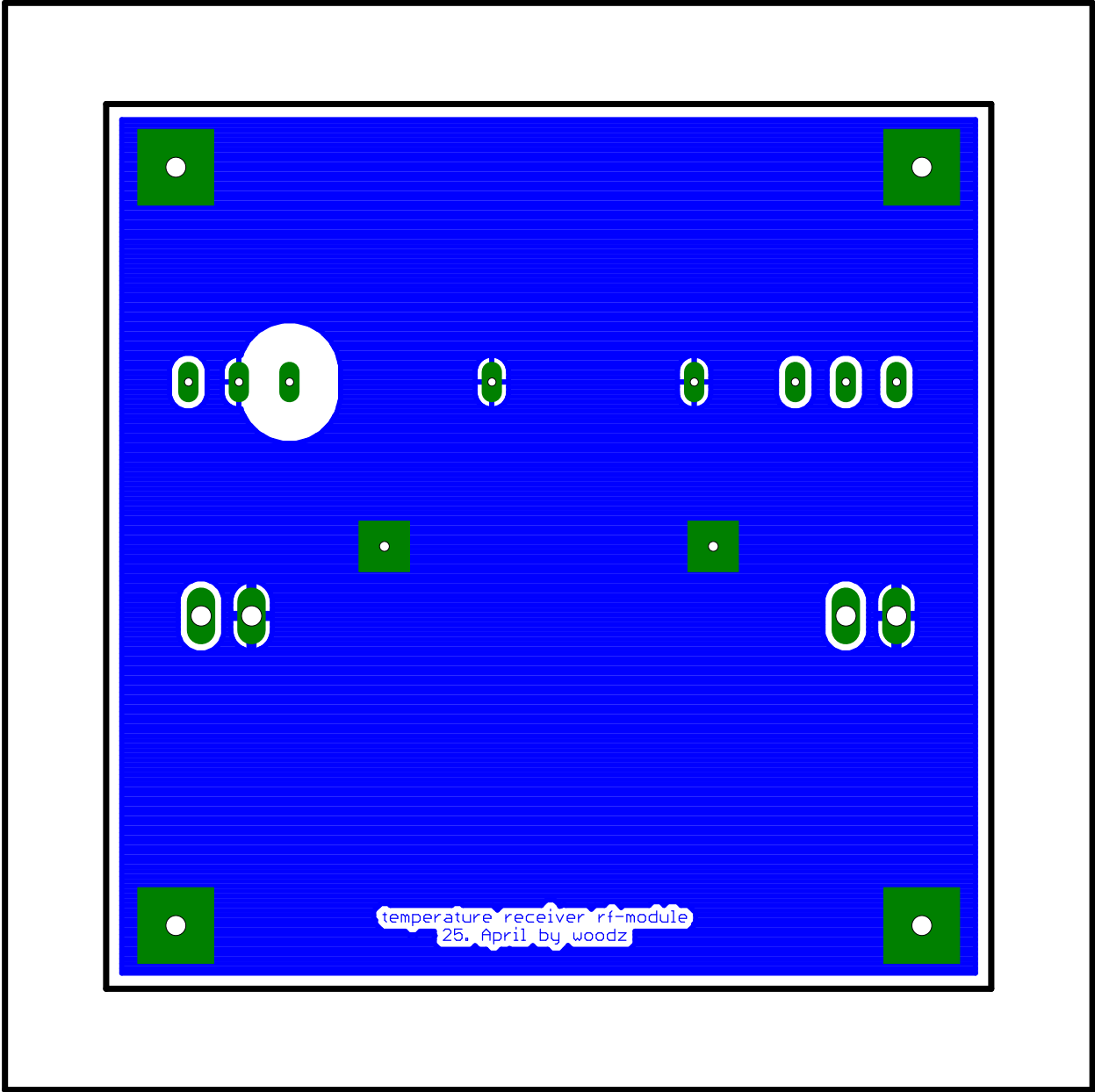
Technical features are subject to change without notice. AUR°EL S.p.A does not feel responsible for any damage caused by the device's misuse.

temperature receiver

May 2014 by woodz







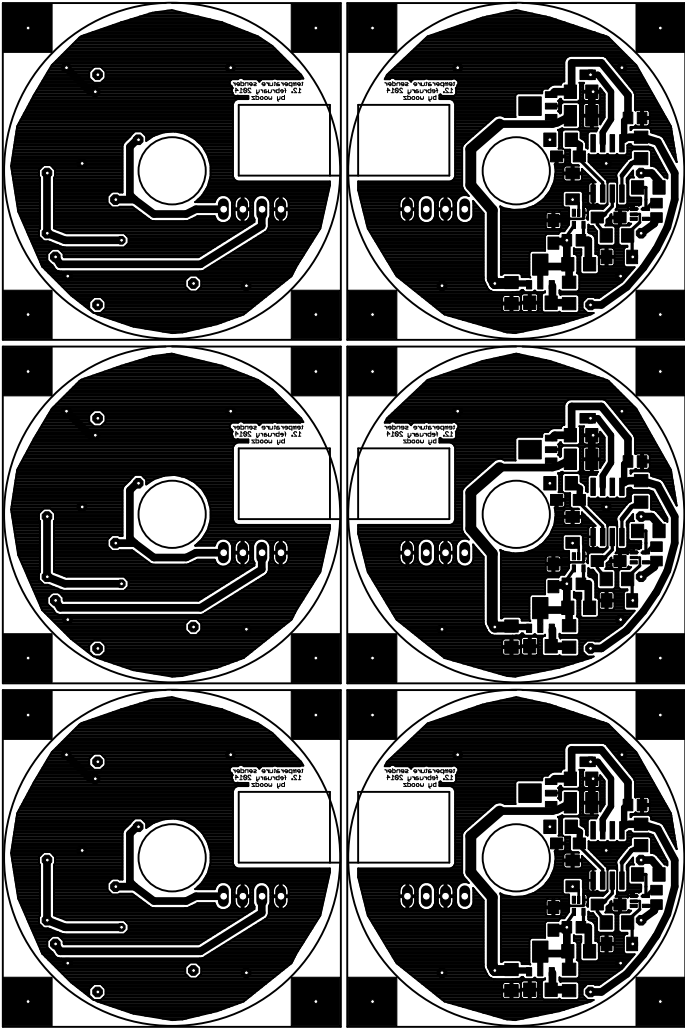
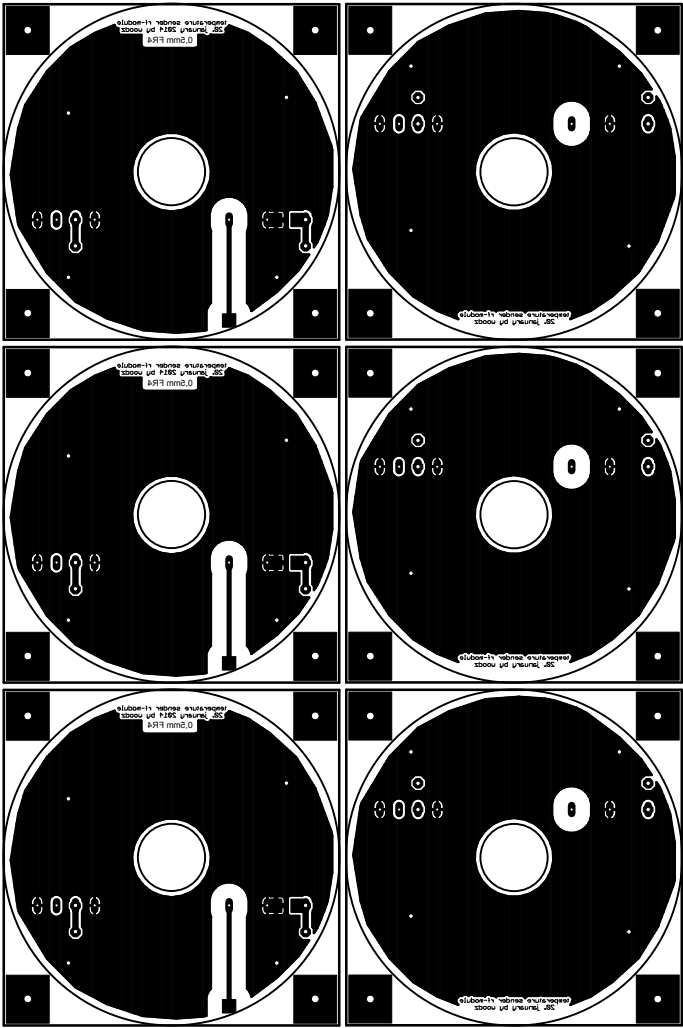
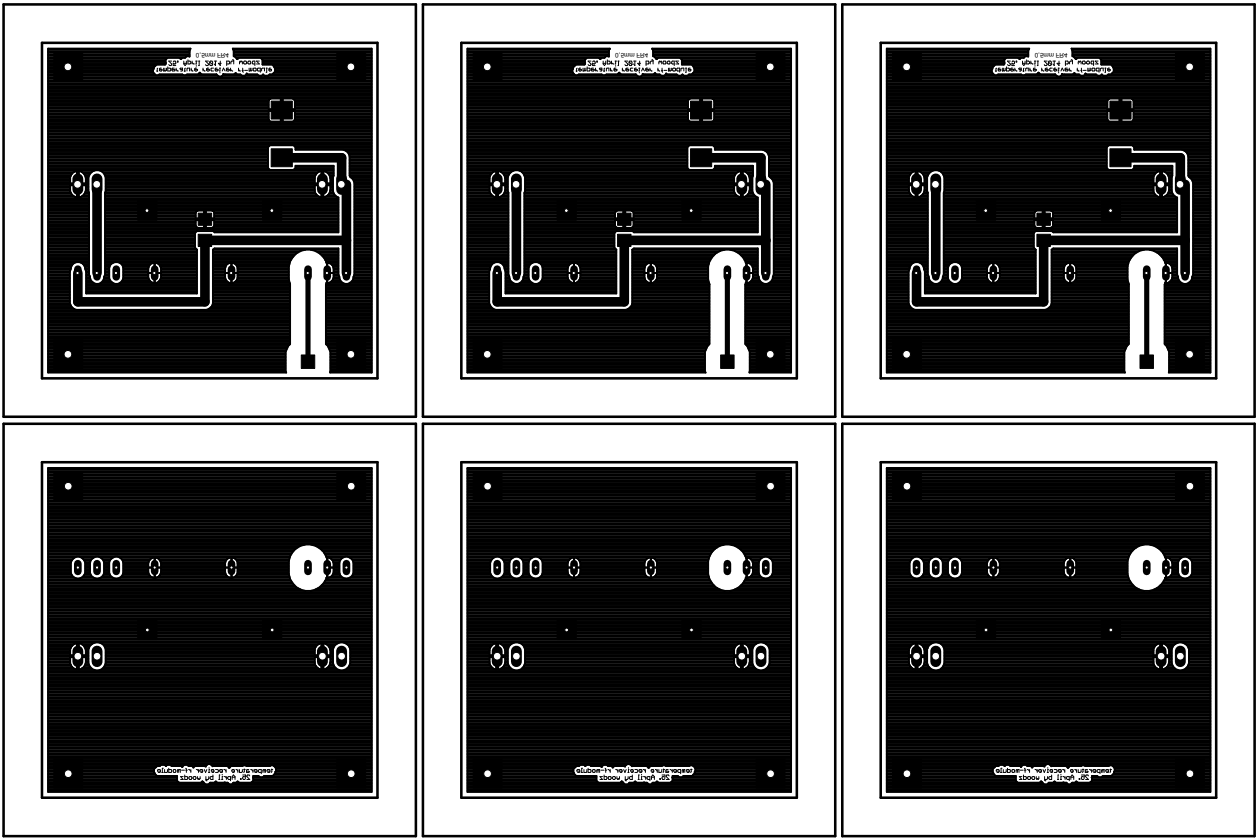
Partlist

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Assembly variant:

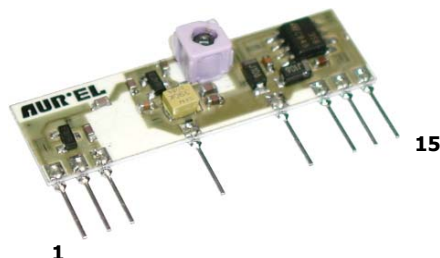
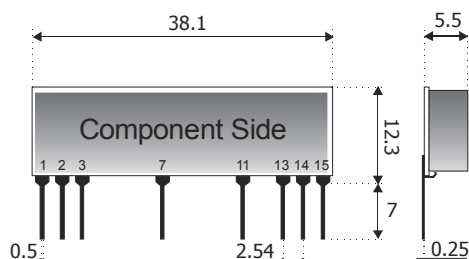
Part	Value	Package	Library	Position (mil)	Orientation
ANT	TPTP18SQ	TP18SQ	testpad	(1337.5 1737.5)	R0
C1	100n	C1206	rcl	(800 1050)	R90
C2		SMC_D	rcl	(1200 550)	R270
IC1		AUREL_BC-NBK	aurel	(737.5 1325)	R180
J1	22-05-7028-02	7395-02	con-molex	(1462.5 812.5)	R0
J2	22-05-7028-02	7395-02	con-molex	(187.5 812.5)	R0



AC-RX Receiver

Economic receiver with low consumption, low voltage supply and variable coil. Optimised characteristic for HCS KEELOQ™ decoder/encoder family.

Pin-out



Connections

Pin 2-7-11	Ground	GND Connections: Internally connected to a single ground plate
Pin 3	Antenna	50Ω impedance antenna connection
Pin 1-15	+V	Connection to the +5V ±0.5V supply positive pole
Pin 13	Test Point	Analog output of the demodulated signal. By connecting an oscillograph the entity and quality of the received RF signal can be seen.
Pin 14	Data Out	Receiver digital output. Apply loads over 10 KΩ

Technical features

	Min	Typical	Max	Unit	
Working centre frequency		433.92		MHz	
Voltage supply	4.5	5	5.5	V	
Absorbed current		2.5	3	mA	
RF sensitivity		-100		dBm	See note 1
-3 dB RF bandwidth		±2		MHz	
Square wave output			3	KHz	
Output low voltage			Gnd+0.4	V	See note 4
Output high voltage	$V_s - 0.4$			V	See note 4
RF spurious emissions in antenna		-65		dBm	See note 2
Switch-on time			2	s	See note 3
Operating temperature range	-20		+80	°C	
Dimension	38.1 x 12.3 x 5.5 mm				

Nota1: Values have been obtained by applying the test system as per Fig. 1.

Nota2: The RF emission measure has been obtained by connecting the spectrum analyser directly to RX Pin 3.

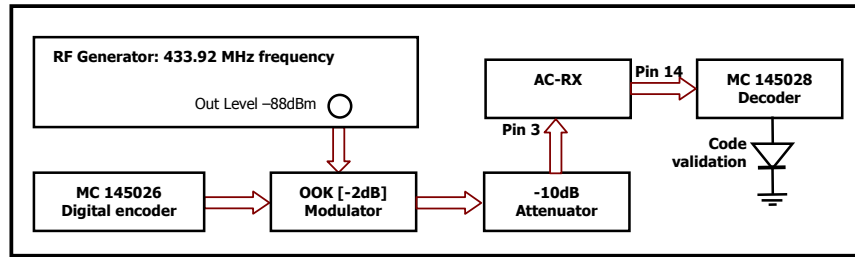
Nota3: By switch-on time is meant the time required by the receiver to acquire the declared characteristics from the very moment the power supply is applied.

Nota4: Values obtained with 10KΩ maximum load applied.

Technical features are subject to change without notice. AUREL S.p.A. does not assume responsibilities for any damages caused by the device's misuse.

The declared technical features have been verified by applying the following test system:

Fig. 1



Device usage

In order to take advantage of the performances described in the technical specifications and to comply with the operating conditions which characterize the Certification, the receiver has to be fitted on a printed circuit, considering what follows:

5V Supply voltage

1. The receiver must be supplied by a very low voltage source, safety protected against short circuits.
2. Maximum voltage variations allowed: ± 0.5 V.
3. De-coupling, next to the receiver, by means of a minimum 100.000 pF. ceramic capacitor.

Ground

1. It must surround at the best the welded area of the receiver. The circuit must be double layer, with throughout vias to the ground planes, approximately each 15 mm.
2. It must be properly dimensioned, specially in the antenna connection area, in case a radiating whip antenna is fitted in it (an area of approximately 50 mm radius is suggested.)

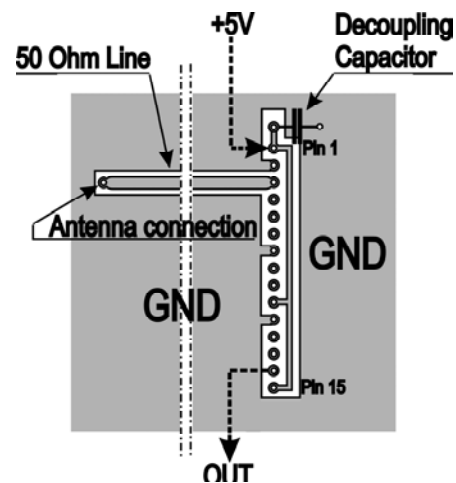


Fig.2 Suggested lay-out for the device correct usage

Technical features are subject to change without notice. AUREL S.p.A. does not assume responsibilities for any damages caused by the device's misuse.

50 Ohm line

1. It must be the shortest as possible.
2. 1,8 mm wide for 1 mm thick FR4 printed circuits and 2,9 mm wide for 1,6 mm thick FR4 printed circuits. On the same side, it must be kept 2 mm away from the ground circuit.
3. On the opposite side a ground circuit area must be present.

Antenna connection

1. It may be utilized as the direct connection point for the radiating whip antenna.
2. It can bear the connection of the central wire of a 50 Ω coaxial cable. Be sure that the braid is welded to the ground in a close point.

Antenna

1. A **whip** antenna, 16,5 mm long and approximately 1 mm dia, brass or copper wire made, must be connected to the RF input of the receiver.
2. The antenna body must be kept straight as much as possible and it must be free from other circuits or metal parts (5 cm minimum suggested distance.)
3. It can be utilized either vertical or horizontal, provided the connection point between antenna and receiver input, is surrounded by a good ground plane.

N.B: As an alternative to the a.m. antenna it is possible to utilize the whip model manufactured by Aurel (see related Data Sheet and Application Notes).

By fitting whip antennas too different from the described ones, the EC Certification is not assured.

Other components

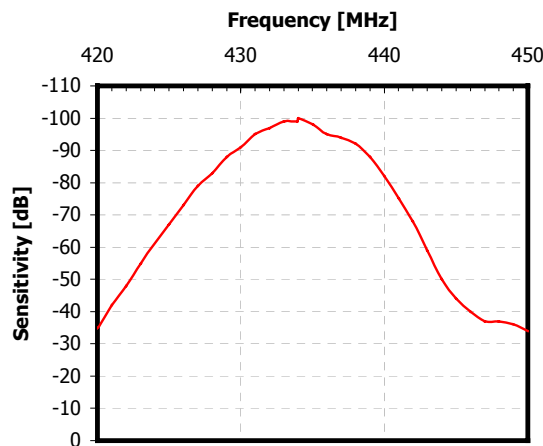
1. Keep the receiver separate from all other components of the circuit (more than 5 mm).
2. Keep particularly far away and shielded all microprocessors and their clock circuits.
3. Do not fit components around the 50 Ohm line. At least keep them at 5 mm distance.
4. If the Antenna Connection is directly used for a radiating whip antenna connection, keep at least a 5 cm radius free area. In case of coaxial cable connection then 5 mm radius will suffice.

Technical features are subject to change without notice. AUREL S.p.A. does not assume responsibilities for any damages caused by the device's misuse.

Reference Rules

The **AC-RX** receiver is EC certified and in particular it complies with the European Rules **EN 300 220-3** and **EN 301 489**. The equipment has been tested according to **rule EN 60950** and it can be utilized inside a special insulated housing that assures the compliance with the above mentioned rule. The receiver must be supplied by a very low voltage safety source protected against short circuits. The use of the receiver module is foreseen inside housings that assure the overcoming of the rule **EN 61000-4-2** not directly applicable to the module itself. In particular, it is at the user's care the insulation of the external antenna connection, and of the antenna itself since the RF output of the receiver is not built to directly bear the electrostatic charges foreseen by the a.m. rule.

Fig.3 Frequency - sensitivity plot



Plot was obtained using the test set up as in Fig.1 with variation of frequency and output level of RF generator

Technical features are subject to change without notice. AUREL S.p.A. does not assume responsibilities for any damages caused by the device's misuse.

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www.reichelt.de
Datum: 29.04.2014

Eingangsbestätigung der Bestellung (I-474976, 4931117)

Artikel-Nr.	Bezeichnung	WHG	Menge	Einzelpreis	Gesamtpreis
P 600M	Gleichrichterdiode, P6, 1000V, 6A	1	6	0,16 Eur	0,96 Eur
WSL 10W	Wannenstecker, 10-polig, gewinkelt	1	10	0,13 Eur	1,30 Eur
WSL 10G	Wannenstecker, 10-polig, gerade	1	10	0,08 Eur	0,80 Eur
RK-G-6	Ring-Kerbschuhe, für M6, gelb	1	10	0,08 Eur	0,80 Eur
RK-B-6	Ring-Kerbschuhe, für M6, blau	1	10	0,06 Eur	0,60 Eur
QS 10-6	Quetschkabelschuh, Ringform, Lochmaß 6,5mm	1	10	0,13 Eur	1,30 Eur
STASB 2	Sicherungsbügel für 2-polig+PE ST-Serie	1	2	0,50 Eur	1,00 Eur
STAS 200	Leistungsstecker mit Zugentlastung, 2+PE	1	2	4,45 Eur	8,90 Eur
STAKEI 200	Einbaubuchse mit Flachdichtung, 2+PE	1	2	3,50 Eur	7,00 Eur
RSMCK 3	M8-Stecker, 3-polig, Schraubverschluss	1	1	7,10 Eur	7,10 Eur
RSMV 4-5	Sensoranschlussleitung, M8-Stecker, 4-polig, 5m	1	1	10,65 Eur	10,65 Eur
RKMHL 4	M8-Kupplung, 4-polig, Print, Hinterwandmontage	1	1	7,35 Eur	7,35 Eur
RKMV 3-5	Sensoranschlussleitung, M8-Kuppl., 3-polig, 5m	1	1	8,80 Eur	8,80 Eur
RKMHL 3	M8-Kupplung, 3-polig, Print, Hinterwandmontage	1	1	7,55 Eur	7,55 Eur
RSMHL 3	M8-Stecker, 3-polig, Print, Hinterwandmontage	1	1	5,60 Eur	5,60 Eur
PSS 254/2W	Printstecker, Einzelstecker, gewinkelt, 2-polig	1	10	0,05 Eur	0,50 Eur
BOPLA ET-205	Gehäuse, 52x 50x 37mm	1	1	4,95 Eur	4,95 Eur
SDH 4,8 RT	10er Pack 2:1 Schrumpfschlauch, 4,8mm rot	1	1	0,40 Eur	0,40 Eur
SDH 4,8 SW	10er Pack 2:1 Schrumpfschlauch, 4,8mm schwarz	1	1	0,36 Eur	0,36 Eur
SDH 4,8 BL	10er Pack 2:1 Schrumpfschlauch, 4,8mm blau	1	1	0,43 Eur	0,43 Eur
ENTLÖTLITZE 15-4	Entlötlitze a. Kupfer, B: 2,5mm, L: 15 Meter	0	1	8,10 Eur	8,10 Eur
WD 40 UNI 100	WD 40 Universalmittel, 100ml	0	1	2,95 Eur	2,95 Eur
WIKO SG15 20	WIKO Super Glue Sekundenkleber SG 15 20 g	1	1	2,85 Eur	2,85 Eur
WIKO SGB 20	WIKO Super Glue Sekundenkleber black 20 g	1	1	2,85 Eur	2,85 Eur
RAUCHMELDER	Fotooptischer Rauchmelder, VdS zertifiziert	0	1	5,55 Eur	5,55 Eur
BAT-KLEMME PLUS	Batterieklemme, vergoldet, Pluspol	1	2	4,55 Eur	9,10 Eur
KATALOG	Hauptkatalog 06/2014	0	1	0,00 Eur	0,00 Eur
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Ihr reichelt elektronik Team

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Datum: 28.May.2014

Warenkorb

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Artikel-Nr.	Bezeichnung	WG	Menge	Einzelpreis incl. MwSt.	Gesamtpreis incl. MwSt.
RKMCK 3	M8-Kupplung, 3-polig, Schraubverschluss	1	1	9,95 €	9,95 €
RP1A48D5	Halbleiterrelais, 1-polig SIL-Gehäuse 5A 480VAC	1	2	14,95 €	29,90 €
PRÜF 2700 RT	Hirschmann-Sicherheitsprüfspitze 4mm, rot	1	2	3,80 €	7,60 €
PRÜF 2700 SW	Hirschmann-Sicherheitsprüfspitze 4mm, schwarz	1	2	3,80 €	7,60 €
PRUEF MPS-2 RT	0,64 mm Mini-Klemmprüfspitze 0,75 rot	1	1	6,95 €	6,95 €
PRUEF MPS-2 SW	0,64 mm Mini-Klemmprüfspitze 0,75 schwarz	1	1	6,95 €	6,95 €

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Sehr geehrtes Saalfeld Team,
ich habe eine Frage an den Mann für schwierige Fälle. Im Wohnhaus meiner Eltern, Bj. 1979 ist zur Steuerung der Fußbodenheizung (Öl-Befeuerung) eine zur damaligen Zeit besonders komfortable Anlage vom Hersteller Therratherm (gibt es nicht mehr) eingebaut worden. Die Anlage ermittelt die anzusteuende Spule für die Drehrichtung des Stellmotors am Mischer (resultierender Winkel) über den Vergleich zweier Temperatur-Sensoren - einer innen im Wohnzimmer, einer aussen. Meine Frage ist nun, ob Sie Informationen darüber beschaffen können, welcher Typ von Sensoren zur damaligen Zeit verbaut wurde. Ich habe den inneren Sensor einmal demontiert und innen auf dem Verguss ein Label mit der Aufschrift RF 00.22 gefunden. Eine Online Recherche führt jedoch nicht zu irgendwelchen Temperatur-Sensoren. Es geht mir um die Kennlinie des Widerstandswertes in Abhängigkeit zur Temperatur. Ist sie linear, Datenblatt oder Wertetabelle. Bei Raumtemperatur habe ich einen Wert von ca. 30K0hm gemessen. Zum Test nach dem Tiefkühlen bei etwa -10°C einen Wert von 80K0hm. Es handelt sich also allem Anschein nach um einen NTC (Heißleiter). Können Sie mehr dazu sagen?
Vielen Dank für Ihre Hilfe

Mit freundlichen Grüßen
Johannes Holzer